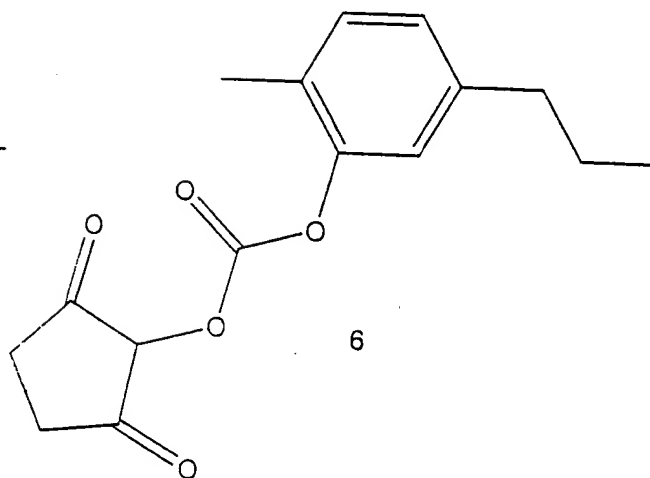
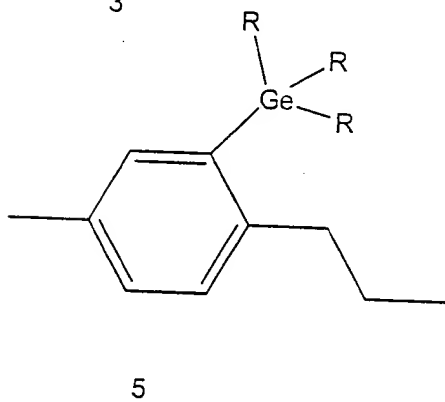
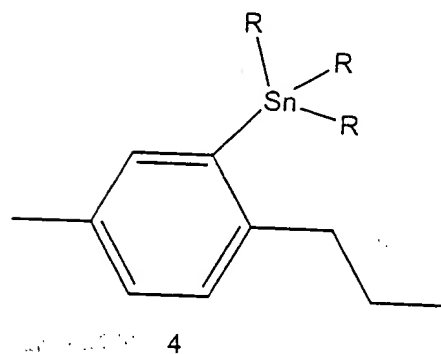
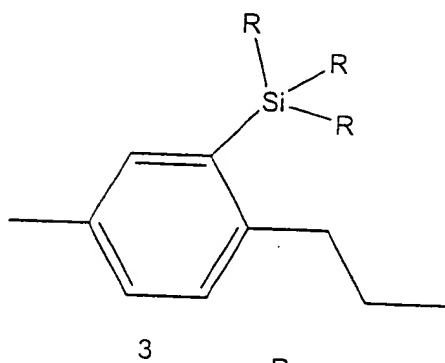
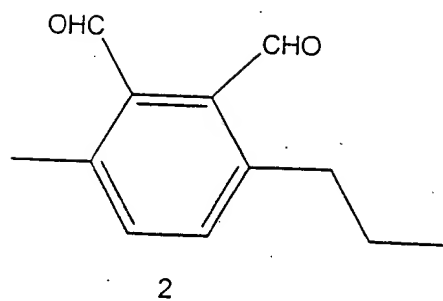
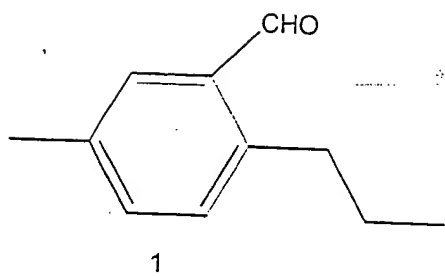


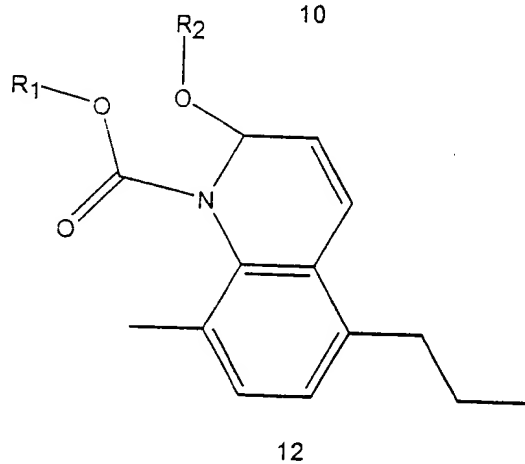
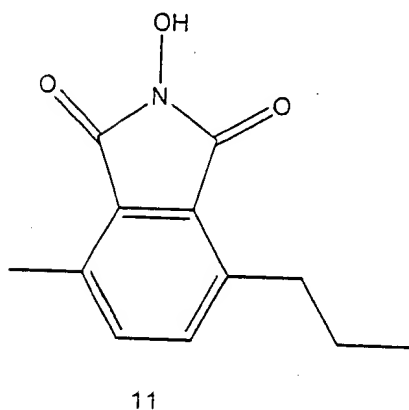
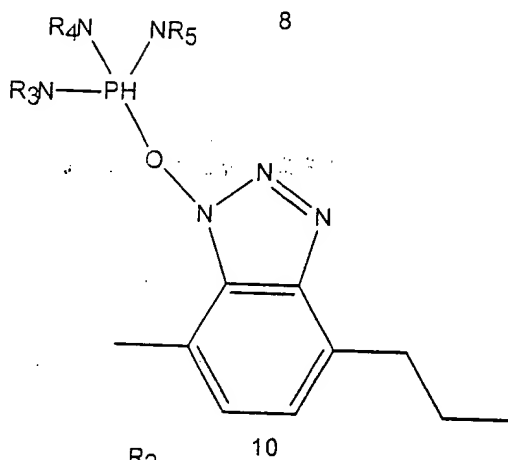
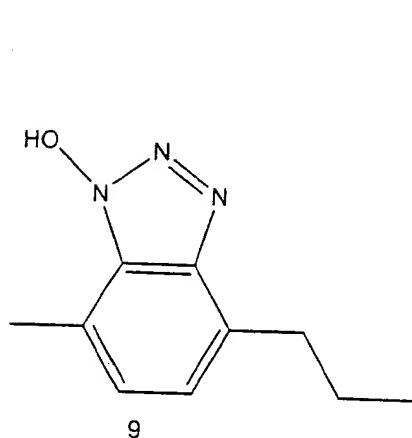
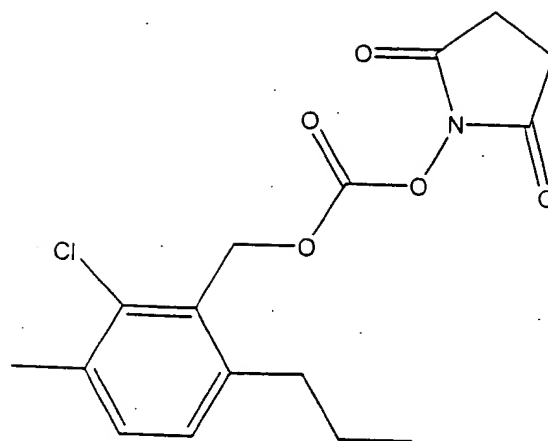
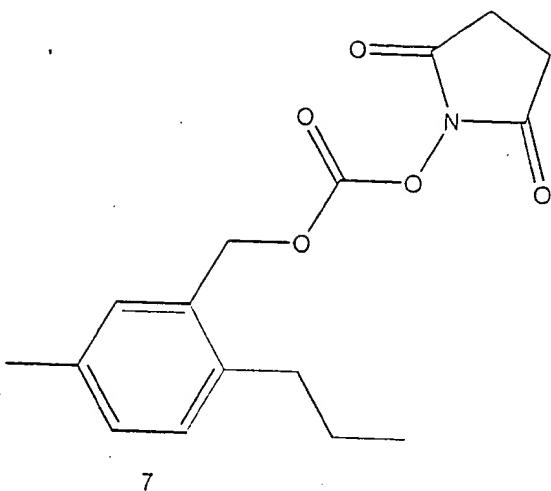
IN THE CLAIMS:

1 1. (currently amended) A one-step chemical vapor deposition process such that the deposited
2 coating comprises at least one interface containing chemical groups having sufficient intrinsic
3 chemical reactivity to react with target molecules.

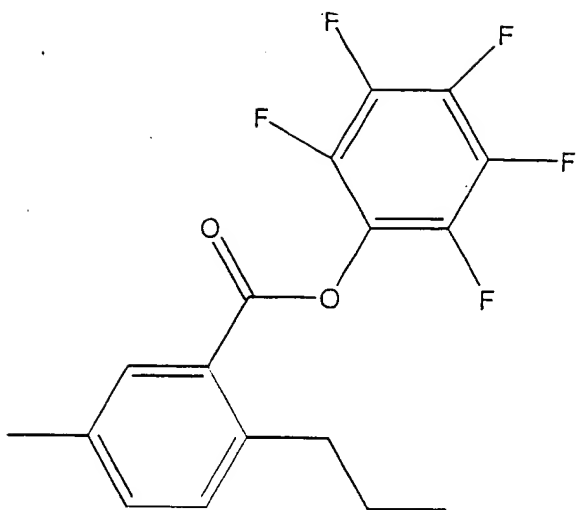
1 2. (previously amended) A chemical vapor deposition process; said process includes coating a
2 substrate with a reactive coating that includes repeating units selected from a group consisting
3 of:



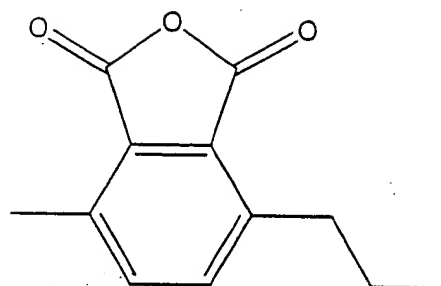
R: hydrogen atom, alkyl, aryl, benzyl, halogen, hydroxyl, alkoxy



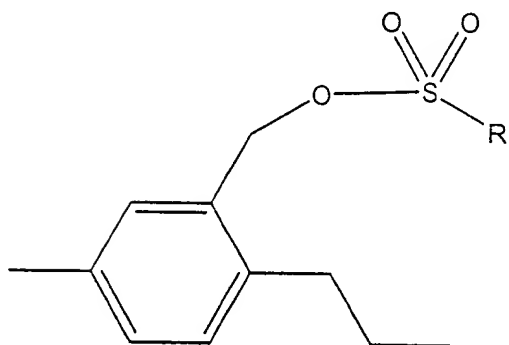
R_1, R_2, R_3, R_4, R_5 independantly are: hydrogen atom, alkyl, aryl, benzyl



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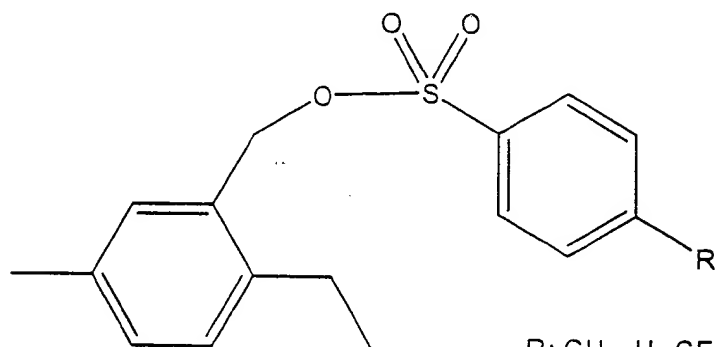


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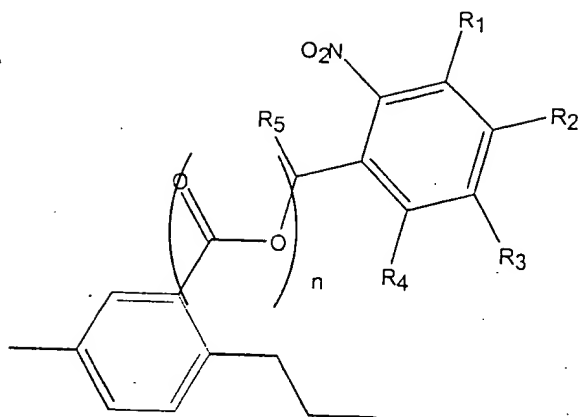
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R: F, CH₃, CF₃, C₄F₉, CH₂CF₃, C₂F₅,
(CH₂)_nNR'₂ (R': hydrogen atom, alkyl,
aryl, benzyl)



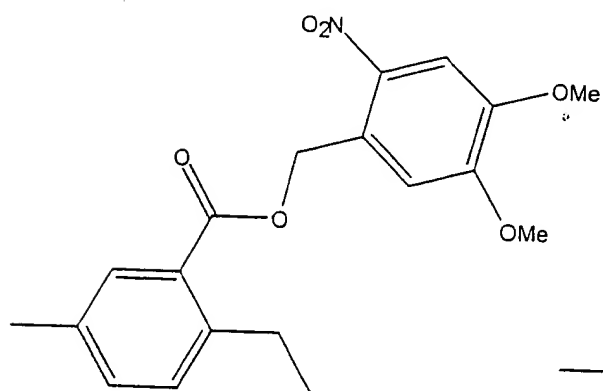
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R: CH₃, H, CF₃, NO₂,
Br, F, Cl, I

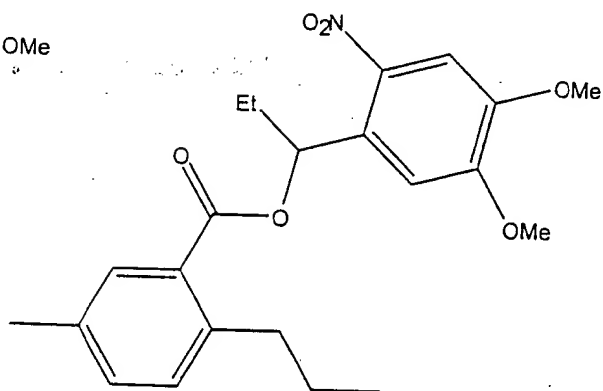


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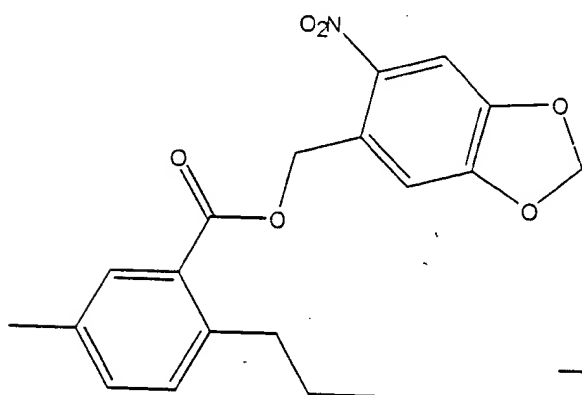
R₁, R₂, R₃, R₄ independently are:
hydrogene atom, alkyl, aryl, benzyl,
halogen, hydroxyl, alkoxy, thiol,
thioether, amino, nitro
n: 0 or 1
R₅: hydrogene atom, alkyl, alkenyl,
benzyl, halogene, alkoxy,



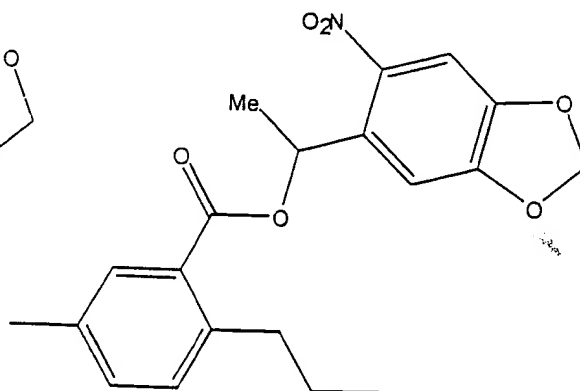
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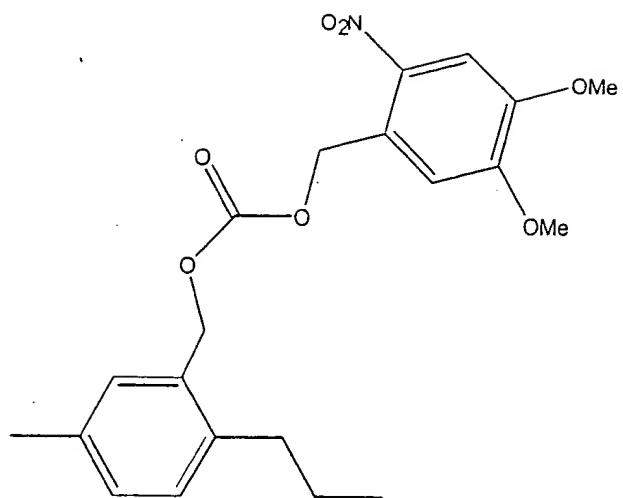
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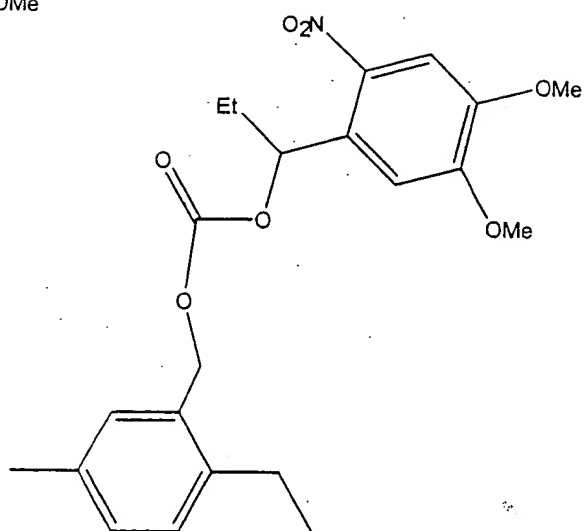
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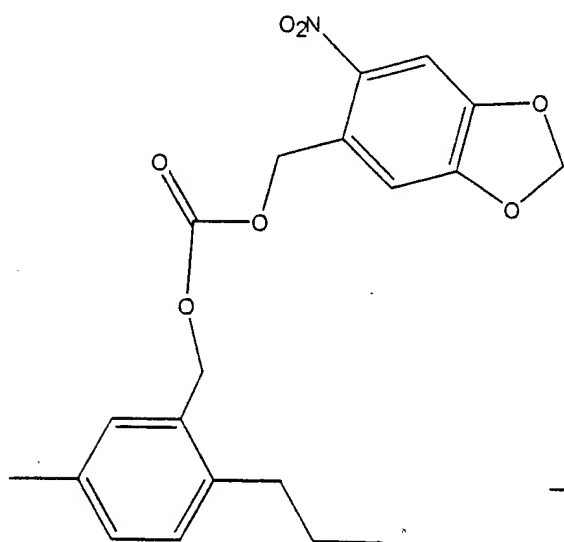
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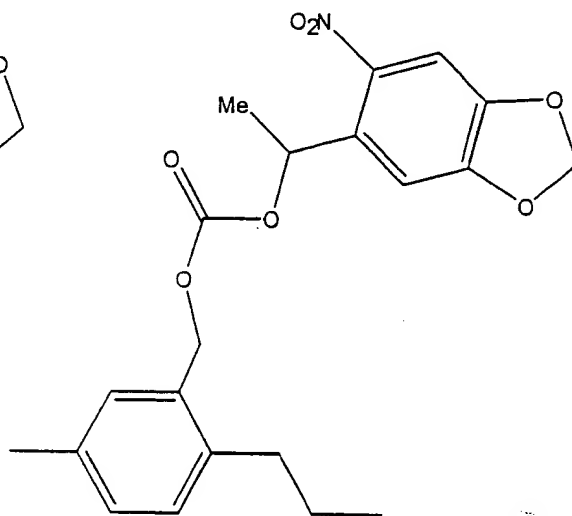
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1 3. (original) The chemical vapor deposition process of claim 1, wherein the interfaces
2 are based on poly[para-xylylenes]s or copolymers thereof.

1 4. (original) The chemical vapor deposition process of the claim 1, wherein
2 [2.2]paracyclophanes are polymerized during the chemical vapor deposition process.

1 5. (original) The chemical vapor deposition process as defined in claim 1, wherein the
2 polymeric coating is poly[*para*-xylylene carboxylic acid pentafluorophenolester-co-*para*-
3 xylylene].

1 6. (original) The chemical vapor deposition process of claim 1, wherein the coating
2 includes interfaces containing functional groups, which are capable of reacting with functional
3 groups of target molecules resulting in stable linkages.

1 7. (original) The chemical vapor deposition process of claim 1, wherein the coating
2 includes interfaces containing functional groups, where illumination with light was used to
3 induce reaction with functional groups of target molecules resulting in stable linkages.

1 8. (original) The chemical vapor deposition process of claim 7, wherein
2 photolithography is used to create immobilization pattern on a substrate.

1 9. (original) The chemical vapor deposition of claim 1, wherein a [2.2]paracyclophane
2 is deposited onto a substrate, said process including:

3 providing purified [2.2]paracyclophane;

4 sublimating the [2.2]paracyclophane under a reduced pressure of less than 100 Pa;

5 heating the sublimated material to approximately 550°C - 900°C to cleave C-C bonds

6 to produce monomers;
7 polymerizing the monomers which are absorbed on the substrate at a temperature below
8 150°C to produce a topologically uniform polymer film.

1 10. (original) The chemical vapor deposition process of claim 9, wherein the
2 sublimation of [2.2]paracyclophane 4-carboxylic acid pentafluorophenolester is conducted at a
3 pressure of 0.2 mbar and at a temperature between 120 to 130°C and the polymerization
4 temperature is below 45°C.

1 11. (original) The chemical vapor deposition process of claim 10 wherein the polymer
2 film is transparent.

1 12. (original) The chemical vapor deposition process of claim 10, wherein the
2 polymeric film has a thickness between 40 and 2000 nm.

1 13. (original) The chemical vapor deposition process of claim 1, wherein said coating
2 is applied in a pattern on a substrate.

1 14. (original) A chemical vapor deposition coating process as claimed in claim 1,
2 including microstructuring by stamping a surface of a substrate to produce a pattern.

1 15. (original) The chemical vapor deposition process of claim 1, wherein the polymer
2 interface is patterned by spatially restricted attachment of biotin-ligands.

1 16. (original) The chemical vapor deposition process of claim 1, wherein the polymer
2 interface is patterned by spatially restricted attachment of peptides.

1 17. (original) The chemical vapor deposition process of claim 1, wherein the polymer
2 interface is patterned by spatially restricted attachment of proteins.

1 18. (original) The chemical vapor deposition process of claim 1, wherein the polymer
2 interface is patterned by spatially restricted attachment of oligonucleotides.

1 19. (original) The chemical vapor deposition process of claim 1, wherein the polymer
2 interface is patterned by spatially restricted attachment of DNA.

1 20. (original) The chemical vapor deposition process of claim 1, wherein the polymer
2 interface is patterned by spatially restricted attachment of polysaccharides.

1 21. (original) The chemical vapor deposition process of claim 1 further including
2 patterning the surface of the substrate using layer-by-layer adsorption.

1 22. (original) A chemical vapor deposition process of claim 1, wherein (+)-biotinyl-
2 3,6,9-trioxaundecanediamine was used for coating different patterns of substrates with
3 poly[*para*-xylylene carboxylic acid pentafluorophenolester-co-*para*-xylylene].

1 23. (original) The chemical vapor deposition process as claimed in claim 1, further
2 including masking a surface of the substrate to produce a patterned coating having defined
3 areas, each area having different functional groups.

1 24. (original) The chemical vapor deposition process as claimed in claim 1 further
2 including a plasma treatment of the substrate prior to the chemical vapor deposition process.

1 25. (original) The chemical vapor deposition process as claimed in claim 1, wherein a
2 polymer interface containing chemical groups having sufficient intrinsic reactivity to react with
3 target molecules is created and the chemical groups show an anisotropic distribution on the
4 surface.

1 26. (original) The chemical vapor deposition process as claimed in claim 25, wherein
2 a gradient of reactivity is formed.

1 27. (original) The chemical vapor deposition process as claimed in claim 1, wherein
2 the deposited coating comprises co-polymers with at least two different types of chemical
3 groups each having sufficient intrinsic reactivity to react with target molecules.

1 28. (original) The chemical vapor deposition process as claimed in claim 1, wherein
2 the deposited coating comprises co-polymers of at least one polymer with at least one type of
3 chemical groups having sufficient intrinsic reactivity to react with target molecules and of at
4 least one polymer that has no sufficient intrinsic reactivity to react with target molecules.

1 29. (original) The chemical vapor deposition process as claimed in claim 28 wherein
2 the polymer that has no sufficient intrinsic reactivity to react with target molecules is a poly(*p*-
3 xylylene).

1 30. (original) The chemical vapor deposition process as claimed in claim 28 wherein
2 the polymer that has no sufficient intrinsic reactivity to react with target molecules is a
3 functionalized poly(*p*-xylylene).

1 31. (original) The chemical vapor deposition process as claimed in claim 28 wherein
2 the polymer that has no sufficient intrinsic reactivity to react with target molecules is a
3 poly(olefin).

1 32. (original) Preparation of an electrophoresis chamber including depositing a
2 polymer coating by chemical vapor deposition as claimed in claim 1, said coating including
3 functional groups to enhance surface properties.